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CXA20 Series

Single and dual output

ARTESYN TECHNOLOGIES

- **4:1 input voltage range**
- **No minimum load on singles**
- **6A on 3.3V output (@ 48Vin) at 50˚C in still air**
- **Wide operating temperature with overtemperature protection**
- **±10% output voltage trim**
- **Remote On/Off control**
- **Overvoltage protection**

The CXA20 is a new 20W addition to the CXA family of open-frame, isolated, DC/DC converters. The five model series features a 4:1 input voltage range of 18 to 75VDC, making it suitable for a wide variety of communications and distributed power applications. With its 2.0 x 1.6 inch industry standard footprint, the CXA20 provides an easy upgrade option for new and existing Artesyn customers seeking a high-performance, cost-effective power supply. The CXA20 is available in output voltages of 3.3V, 5V, 12V, ±5V and ±12V. The 3.3V version delivering up to 6A is fully rated to 20W. Typical efficiency for the CXA20 is 83 percent. The CXA20 offers remote on/off, as well as overvoltage, overtemperature and short circuit protection features.

CE (LVD) VDE c UL us CSA

2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage accuracy		±1.0%
Line regulation (LL to HL)	Singles/dual positives Dual negatives	±0.1% ±0.1%
Load regulation (not incl. cross reg.)	Full load to minimum load S3V3 Singles/dual positives Dual negatives	 ±0.2% ±0.1% ±0.1%
Minimum load	Singles Duals (for imbalanced loads)	None 10%
Ripple and noise 20MHz bandwidth	S3V3, S05, D05 S12, D12 All models	75mV pk-pk max. 100mV pk-pk max. 20mV rms max.
Temperature coefficient		±0.02%/°C
Overvoltage protection		See Application Note 107
Short circuit protection Short <20mΩ	Hiccup	Continuous automatic recovery
Transient response	25% load step	±2.0% max. dev., 300µs recovery to within total error band
Load cross regulation (See Note 1)	10% load to full load, either output	±7.0%

INPUT SPECIFICATIONS

Input voltage range	48Vin nominal	18 to 75VDC
Input fuse	HRC recommended	2.0A
Max. input rise and fall time	48V ETS300-132	5V/ms
UVLO turn ON voltage UVLO turn OFF voltage	(See Note 4) (See Note 4)	92% 86%
Remote ON/OFF Logic compatibility ON OFF		 CMOS/TTL/Open Collector Open circuit or >2VDC <1.2VDC

EMC CHARACTERISTICS

ETS 300 386-1 table 5 Conducted emissions	EN55022, ext. cap. (Note 5) EN55022, external filter, VDE0878, 48V models	Level A Level B
Radiated emissions	EN55022-B	See App. Note 107
Immunity:		
ESD air	EN61000-4-2	8kV (NP), 15kV (RP)
ESD contact	EN61000-4-2	6kV (NP), 8kV (RP)
EFT DC power	EN61000-4-4	2kV (NP), 4kV (LFS)
EFT signal	EN61000-4-4	1kV (NP), 2kV (LFS)
Radiated field enclosure	EN61000-4-3	10V/m (NP)
Surges indoor signal	EN61000-4-5	500V (RP)
Conducted (DC power)	EN61000-4-6	10V (NP)
Conducted (signal)	EN61000-4-6	10V (NP)
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		See table
Overtemp. shutdown		120˚C
Isolation voltage	Input/output test voltage	1500VDC
Switching frequency	Fixed	400kHz
Approvals and standards (See Notes 6,7,8)		EN60950 UL1950 File No. E136005
Material flammability		UL94V-0
Weight		26g (0.92 oz)
MTBF (Representative model 48S05 @ 48Vin)	MIL-HDBK-217F Parts stress method Ground Benign @ 25°C	400,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient temperature Non-operating	-40°C to +60°C, (See Note 9) -55°C to +125°C
ETS 300 019-2-3		Classes T3.1, 3.2, 3.3, 3.5
Air temperature	Low: IEC 68-2-1 High: IEC 68-2-2 Change: IEC 68-2-14	-40°C +60°C -40°C to +60°C
Relative humidity	IEC 68-2-56 IEC 68-2-30	10% to 100% RH Condensation

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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

INPUT VOLTAGE	OUTPUT VOLTAGE	OVERVOLTAGE PROTECTION (2,3)	OUTPUT CURRENT (MAX.)	TYPICAL EFFICIENCY	MODEL NUMBER
18-75VDC	3.3V	3.7V	6.0A	80%	CXA20-48S3V3
18-75VDC	5.0V	6.67V	4.0A	83%	CXA20-48S05
18-75VDC	12V	14.25V	1.66A	83%	CXA20-48S12
18-75VDC	±5V	6.67V	2.0A ea.	84%	CXA20-48D05
18-75VDC	±12V	14.25V	0.83A ea.	84%	CXA20-48D12

Notes

1 Negative output voltage deviation when either load is changed.
2 For TVS/Zener specifications please see Application Note 107.
3 On dual output models, OVP protection is on positive outputs only.
4 With respect to minimum input voltage.
5 With one external 4µF capacitor across the input.
6 Unit provides basic insulation up to the 75VDC maximum input voltage.
7 Maximum continuous output power not to exceed 20 Watts.
8 User must provide 2A HRC (recommended) in line fuse in order to comply with safety approvals.
9 Download Application Note 107 and the full data sheet from our website.

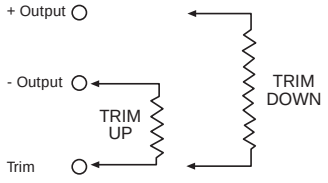
CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

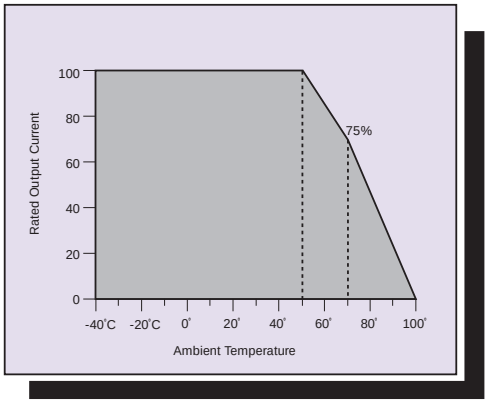
PIN CONNECTIONS		
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Input	+ Input
2	– Input	- Input
3	No Pin	No Pin
4	Remote On/Off	Remote On/Off
5	No Pin	+ Output
6	+ Output	Common
7	- Output	- Output
8	Trim	Trim

MAX. TEMPERATURES FOR FULL RATED OUTPUT CURRENT		
MODEL	FULL Vin RANGE	Vin <60VDC
48S3V3	50˚C	50˚C
48S05	55˚C	60˚C
48S12	50˚C	55˚C
48D05	55˚C	60˚C
48D12	50˚C	60˚C

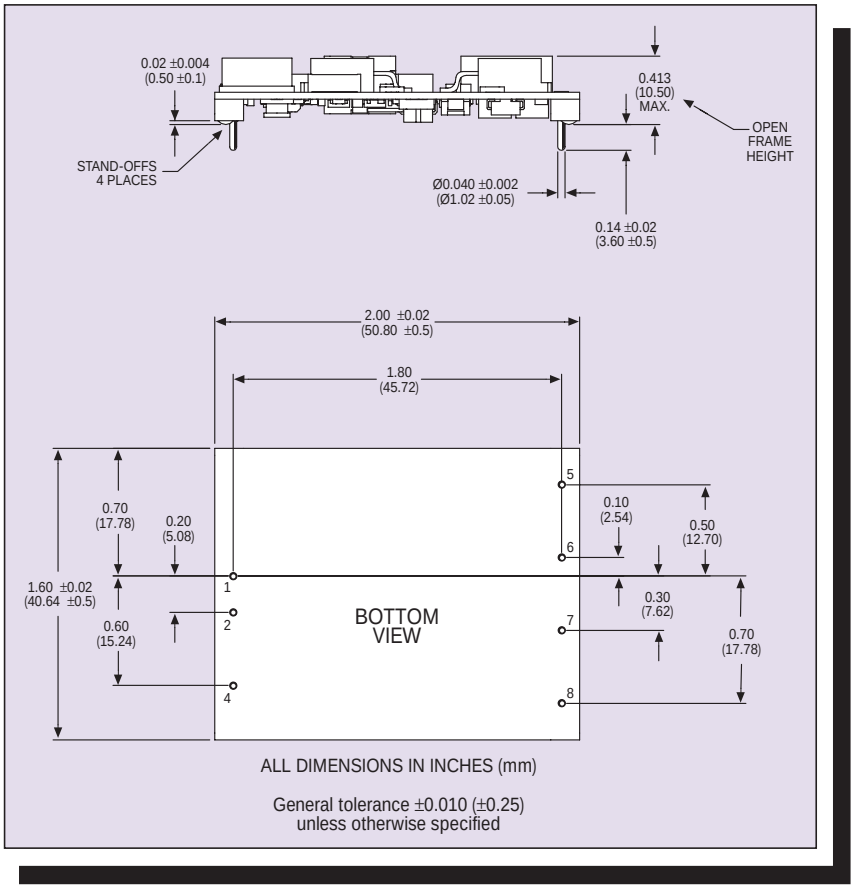
EXTERNAL OUTPUT TRIMMING

All models can be externally trimmed by ±10% using either method shown below. See Application Note 107 for details.





Derating Curve Output Current vs Temperature S3V3 Natural Convection (<0.1m/s airflow)



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